UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,380	11/28/2000	Timothy J. Van Hook	723*957	4467

				EXAMINER
27562	7590	02/26/2004		NGUYEN, HAU H

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ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *14 November 2003*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-28* is/are pending in the application.
    4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *5,6, 12-28* is/are rejected.
7) ☒ Claim(s) *7-11* is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 1, 12, 14-16, 19-20, 23, 25-28 are objected to because of the following

informalities: the variables "YUV", "YUV 4:2:0" "RGB8", "RGBA6", "R5G6B5", "Z", "720 x

576 Y", "360 x 288 U", "360 x 288 V", "1024 x 640 8 bit Y image", "528 x 320 8 bit U image",

"528 x 320 8 bit V image" are not defined in the claims 1, 12, 14-16, 19-20, 23, 25-28, and

therefore, can represent any value, including zero value. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

3.   Claims 5 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Deering

(U.S. Patent No. 6,664,955).

Referring to claims 5 and 12, Deering teaches a graphics system comprising a frame

buffer storing images and objects in pixel form that can store point sampled color and depth,

super-sampled color and depth (col. 3, lines 6-29). Deering further teach other color space

formats may also be used in lieu of the RGB color space, for example, YUV (col. 31, lines 40-

41).

In regard to claims 6 and 13, Deering teaches the size of bins, i.e., the quantity of samples

within a bin, may vary from frame to frame and may also vary across different regions of display

device 84 within a single frame (col., lines), thus depending upon the number of samples, the

data received can be in 48-bit format or 96-bit format.

As for claim 13, sample memories 160A-160N may comprise any of a number of

different types of memories (e.g., SDRAMs, SRAMs, RDRAMs, 3DRAMs, or next-generation

3DRAMs) in varying sizes (col., lines).

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this
> or a foreign country, before the invention thereof by the applicant for a patent.

5.   Claims 14-28 are rejected under 35 U.S.C. 102(a) as being anticipated by Fielder et al.

(U.S. Patent No. 5,694,143).

Referring to claims 14-17, 19-21, 23 and 25-27, Fielder et al. teach a single chip display

processor is comprised of a dynamic random access memory (DRAM) (an embedded frame

buffer) for storing at least one of graphics and video pixel data, a pixel data unit (PDU) for

processing the pixel data, integrated in the same integrated circuit (IC) chip as the DRAM, the IC

chip further comprising a massively parallel bus for transferring blocks of pixel data at the same time from the DRAM to the PDU, whereby the PDU can process the blocks of pixel data for subsequent display of processed pixel data (col. 3, lines 23-32). The system could allow full-motion video to be input in a variety of different standard formats, including GREY8, RGB332, RGB565, RGB555, ARGB8888, LUT8, RGB888 (RGB color format), YUV411, YUV422 and YUV420 (YUV color format), as well as other formats (col. 2, lines 14-17).

In regard to claims 18 and 24, Fielder et al. teach the data of an entire line of pixels, frame or part of a frame is thereby transferred in parallel between the memory and the pixel processor, whereby the pixel processor processes each bit in parallel with the others that have been transferred (col. 1, lines 66-68, and col. 2, lines 1-3). FIG. 3 illustrates the frame buffer and pixel output path subsystem. The eight bit per pixel frame buffer subsystem is comprised of eight separate frame buffer blocks 50. Each of these blocks holds one bit of each pixel of an entire frame defined by the 8 bit pixels (col. 5, lines 35-45). Since the graphics system can receive data of different formats and transfer in parallel, it is implied that the frame buffer is reconfigured frame-by-frame basis.

In regard to claims 22 and 28, as cited above, Fielder et al. teach the YUV format also comprising YUV 4:2:0.

6.   Claims 7-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. See PTO-892 form.

Chen et al. (U.S. Patent No. 6,532,018) teach an embedded frame buffer for storing point

sampled and color depth, and super-sampled color and depth.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The

examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew Bella can be reached on 703-308-6829.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office whose

telephone number is (703) 306-0377.

H. Nguyen

02/09/2004

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600